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**Proposed Analytical Framework  
Softwood Lumber from Canada**

**DISCUSSION DRAFT**

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## **Proposed Analytical Framework for Changed Circumstances Reviews of the Outstanding Countervailing Duty Order on Imports of Softwood Lumber from Canada**

### **Executive Summary**

- This draft discussion paper provides a roadmap for changes in Canadian provincial stumpage practices that would move Canada toward a market-based system of timber sales. It outlines an analytical framework for determining if changes made in Canadian provincial stumpage programs warrant expedited elimination of the countervailing duties on a province-specific basis.
- The paper is intended to foster two other mutually reinforcing goals. One is to ensure that the policies adopted by the Department of Commerce do not inhibit the ability of the provinces to manage their forests on a sustainable basis where such activities do not confer a benefit on Canadian lumber producers. The second is to foster the development of a forest products market fully consistent with the objectives of the North American Free Trade Agreement by eliminating a continuing source of trade friction between the United States and Canada.
- The draft framework provides that, when a province modifies its stumpage program sufficiently, it can apply for a "changed circumstances" review of the current countervailing duty order. In the course of that review, the Department of Commerce will evaluate whether the modified program no longer provides a countervailable subsidy. Given the nature of the underlying programs involved and the fact that provinces may adopt different means of achieving the same results, the Department intends to conduct the reviews on a province-specific basis when requested and the initiation criteria are satisfied.
- Minor changes in provincial timber sales and pricing programs will not suffice for purposes of initiating a changed circumstances review subject to the draft framework. Such changes will be assessed in the course of standard administrative reviews applying the methodology used in the investigation, rather than the analytical framework outlined here.
- Changes in a province's method of setting stumpage fees cannot be viewed in isolation from other conditions inherent in the province's timber sales programs. Changes in those conditions, along with the stumpage pricing system, serve as a pre-requisite for obtaining a changed circumstances review. A province must eliminate the non-market-oriented practices associated with the various provincial tenure systems.
- Where a province has eliminated those practices, the Department's review will then focus on whether the amended administered pricing system produces a market-based result. The Department's analysis will use a model of auction sales of standing timber as the

paradigm of what constitutes a market-based system of timber sales. In other words, the Department will ask whether a province's modified stumpage system produces results consistent with those the province could expect from the sale of all of its standing timber at open auction.

- Consistent with the statute and regulations, the Department will require that a province sell at least a significant portion of its timber at public auction, or through other competitive means, such as competitive log markets. The Department will in general not rely on private sales within a province as a market price reference absent evidence that the private sales constitute a market of sufficient size to give the Department confidence that the private sales operate independently of the economic effects of the provincial sales program.
- The province may, however, submit evidence based on a variety of competitive sales, such as a combination of auctions and log markets or a combination of auctions and private sales in independently operating markets, to establish that the province is, in fact, receiving adequate remuneration for its standing timber, as both the World Trade Organization Agreement on Subsidies and Countervailing Measures and the U.S. countervailing duty law require.
- The Department will employ one of two tests, depending on the type of competitive sale, to determine if the competitive sales prices are transmitted without interference to the administered prices established for the rest of the public harvest. These tests include: (1) a standard regression analysis that would make use of market prices gathered from competitive auctions to predict prices for timber on non-auctioned lands, or (2) a residual value calculation that would back out harvesting and hauling costs from competitively sold logs to derive a market price for standing timber.
- Of the two, given the limitations on the viability of residual value calculations, the Department has a strong preference for the use of the regression analysis based on properly structured auctions that eliminate the potential for collusion among bidders or other actions that would distort the market.
- The Department will invite comments on this draft discussion paper from all interested parties. After considering all comments, the Department intends to issue a final policy bulletin in February, 2003.

## **I. Introduction**

- The Department of Commerce (“the Department”) intends to issue policy guidance that would apply to any future changed circumstances review, based on fundamental changes in provincial timber sales and pricing programs, of the countervailing duty order on softwood lumber from Canada.
- What follows is an outline of an analytical framework for determining whether changes in Canadian provincial stumpage programs warrant province-specific revocation of the countervailing duty order on softwood lumber from Canada.
- The principal objective of the Department’s policy guidance will be to provide an incentive for change in Canadian provincial stumpage practices toward a market-based system of timber sales that would ensure that, consistent with the World Trade Organization’s (“WTO”) Agreement on Subsidies and Countervailing Measures and with U.S. countervailing duty law, Canadian provinces receive adequate remuneration for their sales of standing timber to Canadian producers of softwood lumber.
- More broadly, the Department intends the policy guidance to serve as the basis for a long-term, durable solution to the ongoing dispute between the United States and Canada over trade in softwood lumber. The policy guidance is intended to eliminate the basis for trade friction between the United States and Canadian industries and encourage the development of an integrated market for forest products consistent with the goals of the North American Free Trade Agreement and sustainable forestry.
- The Department is, furthermore, aware that sales of standing timber are an integral part of any government’s broader forest management objectives. The Department intends to ensure that the Department’s policy guidance and the methodology it applies do not inhibit changes in provincial forest practices that are consistent with sustainable forestry, as long as those practices do not confer a competitive benefit on Canadian lumber producers. The Department has, as a consequence, focused its policy guidance solely on those features of the provincial timber sales programs that could potentially interfere with or inhibit the ability of prices on provincial stumpage to respond to changes in the markets for forest products, and not on the basic choices that the provinces must make in the interests of sustainable forestry.
- In addition, the Department is aware of the unique historical development of the various provincial forestry management systems and understands that certain elements may not be susceptible to change. The focus therefore is on the substantive outcome, not so much on how the provinces choose to achieve that outcome. For example, while the discussion in this paper often refers to a 100 percent competitive auction-based system as a model for a market-based system, the Department recognizes that the auctioning of all provincial timber is not now likely for most provinces.
- If the Department is satisfied that the portion of the harvest sold at auction or otherwise

subject to competitive markets offers a sufficient basis for setting rates on the rest of the harvest, the Department must still assess whether the mechanism used by the province to apply those results to the remainder of the harvest is sufficient to ensure that stumpage rates applicable to the remainder of the harvest are consistent with the results that would prevail if the entire harvest were sold on a competitive basis.

- The objective is to ensure that all market participants rely on competitive sales of provincial timber for a sufficient share of the furnish for their mills, and that the remaining supply of provincial timber be priced on a market basis as though it was sold on a competitive basis, such that their entire lumber operations are not insulated from market pressures, but instead respond to market signals of supply and demand.

## **II. Legal Context**

- Softwood lumber from Canada is, with certain exceptions, currently subject to countervailing duties when imported into the United States. The Department imposed those duties based on a determination that the affected Canadian provinces provided their lumber producers with a subsidy by selling timber from provincial lands for less than “adequate remuneration.”
- The U.S. countervailing duty law allows parties to request a review of the Department’s findings under certain statutorily prescribed circumstances, including a review based on “changed circumstances.”
- The following discussion sets out the basic definitions that would govern the Department’s review of its findings in the course of a changed circumstances review. It then outlines the legal basis for conducting a review and potentially revoking countervailing duties on a province-specific basis.

### **A. Definitions**

- Under the U.S. countervailing duty law and the WTO Agreement on Subsidies and Countervailing Measures, a government confers a subsidy when it makes a financial contribution and thereby confers an artificial advantage (“benefit”) on a specific industry.
- A government may confer a benefit on an industry by virtue of sales of goods or services “for less than adequate remuneration.” Section 771(5)(E)(iv) of the Tariff Act of 1930, as amended; 19 U.S.C. § 1677(5)(E)(iv).
- The term “adequate remuneration” is not defined in the statute. The Department interprets that term, as used in the statute, to mean the price that would otherwise be charged in the marketplace. In the case of imports of softwood lumber from Canada, that means the fair market value of timber sold by the provinces.
- What constitutes “fair market value” is not defined in the law, but is generally understood to mean a price set between an independent buyer and seller in an open and competitive market – in short, a price determined by market-oriented signals of supply and demand.
- Under the statute, sales at fair market value serve as the framework for the Department’s review of changes in provincial timber sales. The ultimate test of whether the changes introduced in provincial timber sales programs afford a basis for revocation will be the extent to which those changes ensure that, going forward, stumpage fees charged by the provinces are set by market signals of supply and demand. Further, all market participants must make their choices regarding the purchase of timber, the production and sale of lumber, and decisions regarding investments in plant and equipment, on the basis



of market signals of supply and demand.

- Under U.S. countervailing duty law and practice, the Department can, based on an evaluation of the elements of a government program, determine that the program is designed such that it does not provide a countervailable subsidy. If the program, by design, cannot provide a benefit, no further analysis or market benchmarks are necessary.

#### **B. Conduct of Reviews and Revocation on a Province-Specific Basis**

- Applying the test outlined above in the course of any changed circumstances review necessarily implies a review of changes in timber sales programs on a province-by-province basis. The review could lead to revocation of the current countervailing duty order on softwood lumber manufactured from a province's timber if the Department determines that the province's timber sales program ensures that the province received adequate remuneration for its timber (i.e., the fair market value of the timber).
- Current Commerce Department practice strongly favors assessing countervailing duties on a national basis. Indeed, that has been the Department's consistent practice in all previous investigations of softwood lumber from Canada. This is the case where allegations of subsidy most often relate to subsidies conferred by a national government.
- The fact that the provinces own virtually all of the timber lands in Canada presents a unique circumstance. In this case, the basic subsidy in question lies wholly within the jurisdiction of the provinces, rather than the Canadian federal government. In the case of softwood lumber, any effort to address the subsidies in question must necessarily address provincial practices.
- That is particularly important to any effort that is designed to encourage the movement of Canadian timber sales toward a market basis. Any incentive that the Department might offer by setting out the concrete terms and conditions under which it would revoke the countervailing duty order on softwood lumber must be based on a review of the changes in the timber sales programs on a province-specific basis.
- If, as a result of the review, the Department found that the provincial program, as modified, ensured a market-based result, that would end the inquiry. There would be no need to extend the inquiry into comparisons of benchmark prices and no basis for finding a countervailable benefit. On that basis, the Department would revoke the countervailing duty order with respect to the province that had modified its program.
- The key issue for the Department to determine is whether the changes in provincial timber sales are sufficient to ensure that the province receives a market price. The test is whether the changes ensure that the timber sales and pricing programs are premised on functioning, fully open markets or achieve the equivalent result.

### **III. Conceptual Starting Point – Selling Timber on a Market Basis**

- The conceptual starting point for the Department is the sale of standing timber on a market basis.
- Sales of timber in competitive markets take place in a variety of ways, but economists generally agree that the optimal approach, from the perspective of maximizing revenue, to the sale or license of government goods and services is an open auction.<sup>1</sup> In general, properly structured auctions ensure that a government invites the maximum possible competition for the standing timber and obtains the maximum revenue available to it as the resource holder.<sup>2</sup>
- The basic counterfactual the Department will pose is whether a province's modified stumpage system will produce results consistent with those the province could expect from the sale of all of its standing timber at open auction.
- As noted, properly structured auctions tend to maximize the potential competition for the sale of Crown standing timber and, hence, the resulting return to the province from its sales. That is not to say that there are not other means of ensuring the same result. The sale of Crown logs in competitive log markets, with market-determined harvesting costs, could, under certain circumstances, achieve a similar result.
- Alternatively, if a province were to expand significantly the percentage of harvest in private hands or in the hands of indigenous peoples, sales from private lands or by indigenous peoples could also suffice as an adequate basis for assessing the province's timber sales programs.

#### **A. Common Features of Market-Based Sales**

- What is central to each of those methods of market sales is that each starts with the

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<sup>1</sup> There is, of course, a significantly higher volume of private timber transactions in the United States. In those instances, sawmills may negotiate stumpage prices directly with private landholders. In other instances, a private consultant will act as intermediary between various economic actors. In all instances, the sales are economically akin to an auction sale on the basis of sealed bids and are consistent with the Department's reliance on auctions involving open and competitive bidding as the basis for its analytical framework.

<sup>2</sup> The auction model is, in fact, the predominant approach throughout North America, taking all timber sales in the United States, Canada, and Mexico into account. Auctions form the basis of the approach most commonly used by the U.S. Forest Service and its equivalent in the various states.

assumption that the sellers and buyers are trying to maximize the economic return from their activities and will act on that basis. In addition, each approach includes a built-in mechanism for translating demand for downstream forest products into stumpage prices.

- In the case of sales from private lands, both buyer and seller are pursuing their own independent economic interests. Both parties follow the price trends for downstream products such as lumber and chips. Where sellers see upward pressure on prices for downstream products, they will raise their own prices on timber or logs. Similarly, the buyers respond to price changes by raising or lowering their bids for furnish for their mills.
- What is critically important is that both seller and buyer are exposed to the risks inherent in the fluctuation of market prices for downstream products. In short, they respond to the market's ebbs and flows, rather than being insulated from them. That circumstance, in essence, is what must prevail in a market-based system of selling standing timber in order for the Department to revoke the current countervailing duty order.
- Nonetheless, given the small percentage of land currently in private hands, the optimal approach for a market-oriented timber sales program is one based on auctions of standing timber, and, in certain instances, competitive log markets. As discussed below, auctions and competitive log markets ensure maximum competition while offering a measure of transparency that other methods cannot match.

### **1. Auction Sales of Standing Timber**

- While there are many variations on auction design, and the issues surrounding auction design are important for the results achieved, auction sales of standing timber are generally structured around a process that provides for open, competitive bidding.<sup>3</sup>
- In general, the owner of timber land bears the cost of providing the stand for sale, which would typically include (in the case of second growth) outlays like silviculture costs required to bring the stand to a merchantable state; a cruise of the standing timber to assess species, quality, volume, and other relevant factors; the costs of the auction; and, potentially other costs, such as access roads.

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<sup>3</sup> The economic literature on auctions underscores the importance of auction design as a key component in ensuring that competition in auctions is open and fair. Sound auction design must include substantial participation in the market of all significant players and address the possibility of collusion among potential bidders. The structure of provincial auctions, whether of standing timber or logs, will, as a consequence, be critical to the Department's eventual assessment of a province's reforms.

- Typically, auction sales entail the right to enter the forest and harvest the specified timber. They do not imply any continuing, much less long-term, interest in the land or the forest. Nor do such sales impose any significant management responsibilities, apart from clearing the site of debris and other similar activities, and abiding by pertinent harvesting regulations or requirements.
- The seller in an auction of standing timber generally receives payment of the purchase price alone. The seller does not generally bargain for the buyer to provide additional services, but the auctions can incorporate conditions, including site clearing and other such responsibilities. The buyer generally bears the cost of harvesting.
- What auctions do, as a consequence, is offer all parties, the seller and all potential buyers, the opportunity to assess changes in the downstream markets for forest products on a regular basis and to adjust the prices at which they are willing to buy and sell accordingly. In the process, properly structured auctions tend to maximize the responsiveness of both seller and buyer to the prevailing market conditions that drive demand and supply in the market for standing timber.

## **2. Log Sales and Log Markets**

- Truly competitive log markets could serve as an alternative to the auction of standing timber in the Department's analysis. They represent an alternative means of ensuring that the province receives adequate remuneration for its timber sales, subject to certain limitations discussed below in the section on residual value calculations.
- Timber companies and private landholders will, at times, bear the cost of harvesting, employing contract loggers to extract the timber and haul it to either log markets or mills. The price is set by auction of the logs or via contract with a particular mill. In the case of log sales, rather than standing timber sales, the buyer incurs no harvesting costs nor obtains the right to enter the property. The buyer also avoids any obligation for the land or harvested timber, even the costs associated with the clearing the harvested site.
- Log markets eliminate a significant degree of the variation attributable to differences in standing timber. Once cut, the logs sold at auction are subject to inspection by all interested market participants.
- The sale of logs at a log market breaks the link between the various conditions that the provinces impose on the sale of timber under long-term licenses. In addition, log markets eliminate the propensity of current market participants to leverage their ability to acquire better information about the quality of standing timber. In the process, log markets also minimize the entry barriers created by those long-term licenses. Accordingly, sales of logs can have the beneficial effect of encouraging greater

competition for fiber from new market entrants, and the net result, all other things being equal, should be a higher rate or return for the province.

- In conclusion, log markets can serve the same important function as do auctions of standing timber by maximizing the responsiveness of seller and buyer to changes in the supply and demand for downstream forest products that should drive the terms of sale for timber or logs.

#### **B. Establishing a Standard for Revocation**

- As discussed above, when a province modifies its stumpage program sufficiently, the Department of Commerce will evaluate whether the modified program no longer provides a countervailable subsidy in the context of a changed circumstances review. Minor changes in provincial timber sales and pricing programs will be assessed in the course of standard administrative reviews.
- The Department will apply two criteria in determining whether there is no longer a subsidy and therefore whether to revoke on a province-specific bases in any changed circumstances review.
- The first is that provinces will have to eliminate the non-market conditions they currently impose on their timber sales; otherwise they will continue to insulate lumber producers from the full interplay of market forces.
- Provincial programs contain a number of conditions, including tenure, processing, and cut restrictions, that insulate lumber producers from the market. These conditions skew the market signals that changes in prices for downstream forest products should send to the producers in terms of their purchasing, production, and ultimately, investment decisions.
- The second criterion, in the event provinces do not move to 100 percent auctions, is the need to base administered stumpage rates on auction sales or other competitive prices, like competitive log markets, that ensure the maximum competition for the resource and the maximum degree of transparency. Properly structured timber auctions or log markets must also eliminate the potential for collusion among bidders on timber sales. This approach will also eliminate the opportunities that exist in any administered system for individual producers to secure their economic goals through the administrative process rather than through competition in the marketplace.

#### **IV. Analytical Framework for Determining Whether Changes in Provincial Timber Sales Practices Justify Revocation**

- Where the Department agrees to conduct a changed circumstances review, the Department will apply a two-step methodology to determine whether changes in provincial stumpage programs provide “adequate remuneration” to the province and, therefore, warrant revocation of the current countervailing duty order with respect to lumber manufactured from that province’s timber. The two steps involve an analysis of the provincial timber sales programs and an analysis of the provincial stumpage pricing systems.

##### **A. Requisite Changes in Provincial Timber Sales Programs**

- Structural changes in the conditions attached to the provinces’ timber sales programs and changes in the way the provinces set stumpage prices cannot be assessed in isolation. The provinces must modify both the terms under which timber is sold and the means by which the stumpage price is set in order to approximate a market outcome and qualify for revocation of the countervailing duty order.

##### **1. Elimination of Conditions of Sale that are Inconsistent with Sales of Timber on a Market Basis**

- The Department will first look to see whether, or to what extent, a province has, in fact, eliminated those practices that the Department deems to be inconsistent with a market-based timber sales program.
- Canadian provinces own roughly 90 percent of the forest lands in Canada. They have, traditionally, sold the right to harvest timber on provincial land on the basis of long-term tenures. Provinces grant these tenures for terms of 5 to 25 years, generally renewable indefinitely. These tenures generally impose a number of requirements and conditions on the harvest of timber on Crown lands (i.e., those held by the province). The conditions are designed to ensure that the tenure-holder performs those obligations that the province would expect as the ultimate owner of the land.<sup>4</sup>

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<sup>4</sup> There is nothing inherently wrong with the concept of long-term contracts as a means of selling concessions to extract natural resources. Much of the literature on the economics of natural resources suggests the need to ensure that resource users take a proprietary interest in the land and resources under their management or use. Plainly, the simplest and most secure way of ensuring a proprietary interest in the land and its resources is through the sale of the land or the auction of natural resource concessions. Indeed, the long-term nature of the relationship between the province and the tenure-holder may well increase the incentive for the tenure holder to comply with the various conditions attached to the tenure because the tenure holder would only be injuring its own future interests if it did not comply (silviculture and fire

- However, many of the conditions do not relate to the health of the forest or even the preparation of a stand of timber for sale. Those include a variety of minimum cut and local processing requirements, as well as limitations on mill closures. The requirements sometimes also include lengthy tenures which require the long-term commitment of capital and inhibit competition. The effect of these conditions is to alter the economic conditions in favor of the domestic processing industry in the province, which in turn distort trade in softwood lumber in North American markets.
- Significantly, the market distortions introduced by those provincial requirements are not limited to effects on prices in the first instance. Perhaps their most important effects are on investment decisions. To ensure that provinces are selling timber on a market basis will, as a consequence, require a close look not just at the effect of provincial sales on prices, but the other market-distorting effects of provincial measures, including effects on investment decisions.
- Another concern is the extent to which the long-term nature of the contract with the tenure-holder makes the province dependent on the tenure-holder as the primary means for delivering a host of services that would otherwise be performed by the government itself or contractors hired in the market by governments to perform those services.
- The nature of that relationship gives the provinces a stake in the economic health of particular firms and processing operations that would not otherwise exist if the relationship between the province and the tenure holder was, to a greater extent, at arm's length. It also opens an avenue for firms to influence administer pricing decisions that would not exist in the absence of the long-term contracts.
- With that as background, the following discussion attempts to catalog the structural elements of the tenures that are at odds with the notion of selling standing timber on a market basis.

**a. Timber Allocation**

- In practice long-term tenures amount to perpetual licenses to the timber stands that can and have influenced timber prices in a variety of different ways. The provinces will have to eliminate the non-market elements of the timber allocation systems.
- Any market-based system would have to include a method for valuing the worth of the

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protection, are examples). The long-term tenure system could arguably offer a net plus from the perspective of a public authority if the conditions imposed related solely to the protection of the forests for multiple uses and ensuring that the activities of the forest industry do not undermine the value of the forests to other stakeholders in the public at large.

tenures, such as by allowing for their free transferability. In addition, the Department would expect that the analysis that produced the reserve price below which the province would not accept bids for a tenure would be based on the net present value of the expected stream of revenues the owner might expect from the future sale of timber.

**i. Entry/Exit Barriers**

- One factor which influences how quickly a market can respond to changes in demand is the barrier to entry/exit which exists in that market. The barrier to entry/exit in any given market consists of the startup/shutdown costs that a firm would incur in order to enter/exit the market. In addition to the development of mills and clients, a firm must also obtain the concession to harvest timber on a timber stand.
- In Canada, a firm must generally commit to a long-term agreement to obtain this concession. For one thing, this system tends to tie up most of the desirable lands. To exit the market, the same firm would have to get out of an already existing contract. These requirements are not typically found in other markets, and they serve to keep current Canadian firms producing even in down markets. In addition, inefficient firms are not threatened by new innovative competition as frequently as in other timber markets, enabling them to continue their sub-par performance.

**ii. Supply Security**

- In addition, the long-term contracts provide security in that harvesters know their supply of inputs and the price at which they will be supplied far in advance. Harvesters with this type of security are better able to forecast their future ability to produce. They are also insulated from fluctuations in price and the supply vagaries and attendant costs experienced by operators in an open timber market.
- While this may be good for the firms in question, it is bad for the market as a whole. In an efficient market, if input prices increase, the product price will generally increase as a result. Producers with long-term supply contracts do not have to respond to these changes and are once again able to charge lower prices for their products due to the nature of the market found in Canada.

**iii. Government Dependence on Tenure Holders**

- The obvious consequence of providing a social safety net through employment in the timber industry is that provinces may, and often have, made decisions regarding stumpage fees, the waiver of contractual obligations, and other aspects of the tenure system on the basis of preserving specific production facilities, rather than maximizing the return they could otherwise derive from the sale of its resources on a market basis.



- In addition, government dependence on the forest products industry to implement the government's forest management responsibilities has had the implicit effect of decreasing the transparency of the administrative system and increasing the opportunities for individual firms to influence the administrative system.
- All of this insulates producers from market forces, often by reducing their costs and encouraging them to continue to operate when the conditions in downstream forest product markets would dictate otherwise. Provincial action has encouraged investment in plant and capacity beyond what the market would otherwise have demanded, or discouraged the closure of facilities when the market would have dictated the opposite result.

**b. Production-Enhancing Requirements**

- Provinces impose a number of restrictions that have the effect of increasing production in down markets. These include minimum cut requirements and mill closure limitations.

**i. Minimum Cut Requirements**

- Minimum cut requirements specify the volume of timber which must be harvested in a given year or period. Again, the set volume is not dependent on the demand conditions prevalent in the market. This restriction affects the market in exactly the same way as mill closure limitations. As the firm is forced to produce more than it would otherwise, the price of timber is driven downwards, further than in a situation where only market forces influence production decisions.

**ii. Mill Closure Limitations**

- Mill closure limitations generally specify a certain number of days that a mill is allowed to be closed without risking a loss of tenure. Even if demand is low, the mill is not able, under the terms of its tenure, to close for more than the specified number of days. By not allowing these mills to respond to demand, another non-market device has been introduced into the timber market. Regardless of the exact requirements in the tenure contracts, if a mill is forced to operate when demand is low, it will tend to produce more lumber than it otherwise would.
- In the situation where a mill would close, the mill is responding to market forces by not producing when it is not profitable. According to basic economics, a firm will maximize profits when the price for those goods equals or exceeds marginal costs; if the price is below this level, a firm may continue to produce as long as it continues to meet its variable costs, otherwise shutting down is more economically efficient. If, however, a firm is not allowed to shut down, or has a government-imposed disincentive

to shutting down, the supply of the product made by the firm is artificially increased, decreasing the price that would be found in a market without such limitations.

**c. Processing Requirements**

- Provinces impose processing requirements in a number of different forms. The most important for the Department's purposes involve minimum processing requirements and appurtenancy clauses in long-term tenures. However, log export restrictions also have an effect.

**i. Minimum Processing Requirements**

- Some provinces condition harvest rights on the obligation to do some minimum processing of the timber before it can be shipped from the province. Such processing requirements can have two effects -- one on price, the other on investment. With respect to price, the minimum processing requirements have the potential effect of artificially contracting demand from processing facilities outside the administered sector. By contracting the demand for standing timber, provinces artificially lower the price charged to processors within the province.
- The other significant effect of the minimum processing requirement, however, is on the location of processing facilities (i.e., investment). The clear goal of the processing requirements is to ensure that the processing of a province's timber benefits the local producers regardless of market efficiencies. And, on the margin, the minimum processing requirements may well affect a timber processor's decision on where to locate or expand processing facilities. Investment that the market would direct toward other jurisdictions may be attracted to the province solely by virtue of the government-imposed requirement, rather than the economics of the investment itself.

**ii. Appurtenancy Requirements**

- Another non-market condition found in many long-term tenure contracts is the requirement that timber harvested in a certain area must be processed in specific mills. These so called appurtenancy clauses are very much in the same vein as other non-market conditions, but are more extreme.
- In this case, only a very small, if more than one, number of mills is able to compete for harvested timber. This contracts demand to an even greater extent than the minimum processing requirements.
- The result is twofold. From the province's perspective, the effect is to limit competition for the standing timber subject to the appurtenancy clause. The inevitable result of limiting competition is to decrease the return to the province and ensure that the province will receive less than adequate remuneration for its timber.

- The effect on the tenure holder is to inhibit its ability to rationalize production in response to conditions in downstream markets.
- A secondary effect for both the provinces and the producers is that appurtenancy clauses have, in the past, also formed the basis for requests for relief from stumpage and other obligations on the ground that the producer cannot recover its costs under certain market conditions. That has led to further adjustments in the obligations owed by the producer, with the effect, again, of reducing the return to the province, either in the form of revenue from the timber sales, if the reductions took the form of lower stumpage fees, or in the form of the province assuming the cost of the obligations that would otherwise fall on the tenure holder.

### **iii. Log Export Restrictions**

- Another requirement found in British Columbia, and to some extent in other provinces, is the log export restrictions. These restrictions limit the export of timber from the province. Although these restrictions exist separately from the minimum processing requirements explained above, they serve largely the same purpose, and the economic impact is very similar.
- These restrictions tend to limit demand which serves to artificially reduce prices for standing timber.
- The effect on investment is also similar to that of minimum processing requirements. Firms wanting to process British Columbia timber must be located in the province, resulting in investment decisions that are based not on market forces, but on provisions created by the British Columbia government.

## **2. Ongoing Monitoring of Market Trends**

- To aid in evaluating the overall effect of provincial reforms the Department intends to review ongoing market trends. To the extent that the provincial governments adopt a program aimed at the elimination or appropriate modification of some or all of these policies and regulations, the effectiveness of any such program can be evaluated by observing the effect that these policy and regulatory changes have on industry structure and performance, and by observing market trends that one would expect to result from a comprehensive program of market reform.
- There are several economic indicators that could be used to assess the market's response to changes in the provincial timber sales programs. They include changes in (1) timber harvest volumes, (2) number and size of sawmills, (3) number of sawmill closings (closure or market exit rates), (4) employment in the industry, (5) industry investment rates and lumber production or output, (6) average stumpage fees, and (7)

the ratio of the administratively set stumpage fee to the price of finished lumber.

- Thus, for example, elimination of a binding minimum cut requirement would tend to increase the variation in timber harvest volumes and lumber industry output and employment, and perhaps in the number of sawmills in operation, that result from fluctuations in the market demand for lumber. For example, there might be greater reductions in timber harvest volumes and lumber industry output and employment (and maybe increased sawmill closure rates) during market downturns.
- Similarly, if stumpage fees are increased, the tendency will be for marginal sawmills to exit the market in greater numbers, industry output to fall, and lumber prices to increase. The lumber price increase will be moderated and the output effect (in Canada) more pronounced the more elastic are third-country exports and U.S. supply. Both of these examples involve the tracking of data that is readily available from public sources.
- The Department will continue to compare prices between relevant markets (including potential cross-border and cross-provincial markets) to determine whether those markets are integrating and whether prices are converging as a result of structural changes to timber sales programs as the Department expects, while taking into account as appropriate the limitations geography and the structure of timber markets may impose on that process.
- The Department will also continue to assess the health of the forest products industry throughout North America in order to inform future discussions between the United States and Canadian governments on the optimal approach for fostering the North American industry's competitiveness in global markets.
- The Department intends to review ongoing market trends both before and after a potential province-specific revocation. Before revocation, the market trends analysis will be useful in evaluating the effectiveness of structural reforms that a province institutes. After potential revocation, the analysis will be useful to assess the continued effectiveness of the reforms, to guard against rollback, and to monitor potential enforcement concerns with respect to other provinces still subject to countervailing duties.

#### **B. Setting Stumpage Prices on the Basis of Auctions or Other Competitive Sales**

- Even taking into account potential changes in the conditions discussed above, the core issue in dispute in a series of U.S. countervailing duty investigations has been the extent to which stumpage fees charged by Canadian provinces approximate market

prices.

# **1. Problems with Reference Points Used in Current Stumpage Systems**

- As noted above, the provincial governments generally set prices without adequate reference to the dynamics of supply, demand, cost structure, new technologies, and alternative uses. As a consequence, the provinces necessarily limit the operation of markets and distort the information that price signals are designed to convey to buyers and sellers in the marketplace.

## **a. Administered Systems**

- In Canada, each province sets the price of government-owned timber by administrative means. To varying extents, provinces rely on formulas that refer to observed prices for timber or downstream products sold in other markets. Despite their arguments to the contrary, no province actually relies on well functioning markets, in the form of direct sales of standing timber, to set the prices charged by the province for all of its timber.

• Even provinces that rely on private markets as the basis for setting administered prices cannot be viewed as employing a market-based system because, among other things, the non-administered prices do not derive from a functioning market. Since the provinces make up over 90 percent of the total supply, and that supply is highly regulated, any distortion introduced by the provincial stumpage practices can have a significant effect on all prices in Canada.<sup>5</sup>

## **b. Lack of Private Markets on Which to Base Reliable Projections**

- In general, private sales of standing timber in the Canadian provinces represent a market that is wholly dependent on, and derivative of, the much larger public market for timber. Private timber markets are simply too small relative to public timber markets to offer a sound basis on which to assess the validity of administered prices for public timber.<sup>6</sup>

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5 In the U.S., the price of government-owned timber is generally set by public auction. This timber, which is about 12 percent of the total harvest, is part of the overall supply and demand subject to the market.

6 Certain areas of southern Quebec have an appreciable quantity of private stumpage sales. Here, in some instances, private markets may represent a significant portion of the furnish for local mills. Provincial rules encouraging tenure holders to look first to private markets before turning to public lands reinforce the reliance on private markets in this area. Nonetheless, despite these rules, the private market in Quebec is still too small to be independent of the overwhelmingly larger public stumpage market, and private prices are still influenced by the

- No matter what market forces may be at play with respect to private timber prices, the band of price fluctuations in the private market will always be severely limited by the overwhelming influence of the public timber markets. Private prices may fluctuate with high and low demand for downstream products, but the base price will largely be dictated by prices from sales of standing timber from provincial lands.
- For these reasons, absent a significant increase in the amount of timber in private hands, private markets for standing timber in Canada generally will not offer an effective point of comparison for determining whether provincial sales of timber ensure a market price (i.e., “adequate remuneration”).

## **2. Fully Competitive Sales**

- If a province institutes a system based on fully competitive sales, such as 100 percent auctions, there would be no need to do any further analysis.

## **3. Some Competitive Sales Combined With Administered Prices**

### **a. Establishing Appropriate Reference Points**

- Assuming a province does not adopt a system based on 100 percent auctions, the Department will require that provincial stumpage fees be set on the basis of prices established through auctions sales of standing timber or other competitive sales.
- The starting point for any review will be to establish whether a sufficient portion of the province’s timber is sold at public auction or otherwise sold under conditions that result in free and open competition for the timber among a variety of bidders, such as properly structured, truly open and competitive log markets.
- Where a province sells a significant portion of its harvest at auction or a significant portion of its harvest is otherwise sold under circumstances ensuring free and open competition, the Department will examine whether that percentage is sufficient to form a basis on which the province could use the results to set stumpage rates on the remainder of the harvest and still produce a result consistent with that which would prevail if the entire harvest were sold on a competitive basis.
- The Department will not start its inquiry with a specific presumption as to what percentage of a province’s harvest must be subject to auction, or otherwise subject to

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dominant public stumpage prices.

competitive markets, in combination with other reforms, in order to determine whether it achieves results consistent with those that would prevail if all of the harvest was subject to auction.

- The Department will, instead, apply a rule of reason, consistent with the statute and regulations -- one that is designed to ensure that the portion sold on competitive terms affords a sufficient basis on which to estimate the stumpage rates that would apply to the remainder of the harvest not sold at auction or on competitive markets, taking into account the mix of species and variations in quantity and quality as well as the tenures and conditions of sale that may prevail within a province's forests.

**b. Extrapolating from Competitive Sales  
to Administered Sales**

- If the Department is satisfied that the portion of the harvest sold at auction or otherwise subject to competitive markets offers a sufficient basis for setting rates on the rest of the harvest, the Department will then assess whether the mechanism used by the province to apply those results to the remainder of the harvest is sufficient to ensure that stumpage rates applicable to the remainder of the harvest are consistent with the results that would prevail if the entire harvest were sold on a competitive basis. The Department has identified two tests to accomplish this: regression analysis and residual value.
- The objective is to ensure that the mechanism adopted by a province is economically sound, sufficiently transparent, and not distortive in how it communicates competitive sales prices to administered sales prices.

**i. Regression Analysis**

- In conducting a regressions analysis, the Department would rely, in part, on the following model, which is fully described in the Appendix. The model would be used to determine whether the results achieved by a modified stumpage system were consistent with that which would be expected from the auction of standing timber from provincial lands.
- The objective of the model would be to make use of market prices gathered via auctions to predict prices for timber on non-auctioned lands. For stumpage prices to be appropriately set, they should be roughly equivalent to auctioned prices minus any tenure obligation adjustments. The model would, accordingly, require an adequate representation of (1) market prices and (2) tenure obligation adjustments.
- To build an adequate representation of market prices, the key is to gather sufficient information to allow a precise prediction of price for tenured land (e.g., auctioned plots must be representative to ensure statistical precision). What that implies is an auction

of a sample set of timber plots that are representative of the diversity of the province's timber and timberlands.

- The number of plots needed in this “set” depends on the degree of variability in these variables as well as the degree of precision that one wishes to estimate the true hedonic function. Moreover, we would need to identify the extent to which these variables were different for the non-auctioned plots of land. Significantly, what that implies for the province and the Department's analysis is that estimates of timber based on such a model will necessarily become more precise as a province increases the sample size.
- For the model to function properly we need to identify the relevant variables and their relationships to one another (e.g., their statistical codependence). In addition, a “Monte Carlo” exercise using past auction data would be needed to estimate the sampling distribution of the estimates so that an appropriate sample size can be determined.
- The information from this set of questions will map into the optimal set-up of the auctions, where considerations about collusion, thick markets, and other similar factors are important.
- With that information in hand, the Department would then calculate the tenure obligation adjustments. In this case, information such as road building, selling and cutting arrangements, forestry management obligations, any other inescapable costs (or potential benefits) to tenure holders that the auction participants may not bear.
- These adjustments need to be transparent and computed based on market rates. The same issues that were important above apply here: what are the necessary variables to be included in the tenure obligation adjustment?
- In summary, what is necessary is a proper summary of any institutional particular that may drive a wedge between prices of auctioned land and tenured land. More details of the analysis, as well as the formula to be used, are included in the Appendix.

## **ii. Residual Value Approach**

- The Department has a strong preference for building any reforms to provincial stumpage programs on the basis of actual auction sales, using a regression analysis to determine prices for the remaining administered sales. When sales in other competitive markets, such as log markets, are used, the regression analysis would not be applicable. In such instances, a residual value calculation could be used. However, despite arguments raised by the provinces in previous countervailing duty investigations, there are inherent problems with the use of any form of calculation of residual value, as discussed in more detail below.
- As a consequence, parties ought to regard this discussion of residual value as an effort



to set out the parameters under which the Department might be able to make use of the residual value calculation as an alternative or as a cross-check on the regression analysis used for auction sales of standing timber.

- Demand for forest products in downstream markets drives the demand for standing timber. Accordingly, economists call the demand for timber a “derived demand.”
- That notion is consistent with the general agreement among resource economists that the value of a natural resource such as timber can be derived from the value of the downstream products minus the intermediate costs incurred in turning the resource into a finished product and transporting it to market.
- The “residual value” of the resource (i.e., what is left over after subtracting the costs of processing, etc.) represents the potential revenue available to the resource holder. Normally, a profit-maximizing resource holder would take as much of the available revenue as possible and would price the sale of the resource accordingly.
- The residual value model is only useful in a very disaggregated form and if the intermediate markets (i.e., between the stump and the final product) represent well functioning markets, meaning that the costs of the inputs represent their true value. This is why the Department will not consider using a residual value model unless the non-market signals identified in section III.A.1. are first addressed.
- In the context of standing timber, economic theory implies that the market value of standing timber is what a profit-maximizing resource holder would charge in an undistorted market for the timber or the right to harvest it. The market price of timber would, therefore, represent that price at which the resource holder would maximize the return from the timber. Thus, the resource holder would price the timber so as to maximize the amount of revenue from the resource.

\*The economic literature suggests that there are some important qualifications,<sup>7</sup> but in the main, the market for standing timber operates in a manner consistent with this basic

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<sup>7</sup> There are circumstances in which the resource holder will withhold resources from the market where a sale of rights would not offer the return the resource holder expects, given that, with timber, the resource holder might simply wait another year to see what year to see what the market brings. Normally, a resource holder will withhold resources from the market in a couple of important circumstances - (1) when the resource holder plays a sufficiently sizeable role in the market so that it's actions can affect the price and, thereby, the revenues the resource might yield; (2) when, in a competitive market in which no resource holder is capable of affecting the price, the price available due to the downstream demand for products derived from the resource is so low that it will not cover the resource holders costs in offering the right to harvest for sale; and (3) where alternative uses are more valuable.

theory. Forestry economists generally agree that the market price an individual firm is willing to pay for lumber-grade, standing timber starts with a residual value calculation.

- Lumber companies can estimate the value of the finished lumber product that can be manufactured from a given tree and subtract their own harvesting and processing costs, plus a return on investment, to arrive at a price that they would be willing to pay for the timber. Lumber companies strive to pay the lowest possible price. Landholders in turn try to sell trees for the highest possible price (i.e., maximizing the revenue taken from the sale of the right to harvest standing timber). The market price of the timber reflects these dynamics.
- What that suggests is that the calculation of residual value could be used to assess whether a province has instituted changes in its stumpage system that would be consistent with the market-based sale of the standing timber. If the provinces are operating on a market basis, they should behave as profit-maximizing entities and take the total potential revenue available to the resource holder in any given transaction.
- If that is the case, and the stumpage system produces results consistent with those that the Department would expect based on its residual value calculation, the Department would deem the province to have implemented a stumpage mechanism that would result in sales of standing timber on a market-basis when taken together with the elimination of the other market-distorting features of timber sales programs outlined above.
- In practice, residual value could be based on an investigation of the markets for sale of timber all the way through to markets for the sale of the multiple finished products derived from the timber. That implies the need to survey the costs of independent providers of intermediate costs to determine market rates for each step in the manufacturing and distribution process.
- The validity of the residual value calculation depends very much on the adequacy of the adjustments made to the downstream prices in product markets. Such calculations become increasingly complex once the Department moves farther downstream in the product chain due to the multiplicity of adjustments needed.
- The Department has, as a result, decided to apply this methodology, either as an alternative to the regression analysis outlined above or as a cross-check on that analysis, only when it can have confidence in the results. In the Department's view, that means a willingness to examine downstream prices from the auction of standing timber or prices found in competitive log markets, but not prices established in competitive markets farther downstream in the product chain. The Department also recognizes that this methodology requires substantial competitive sales, transparent and competitive cost data, and elimination of other non-market-oriented signals.

- Thus, for example, where a resource holder contracted for cruising, logging and transportation of logs to a functioning log market, the Department could rely on the price of logs and then back out a more limited set of competitive intermediate costs to determine the value of the timber.
- The Department will rely on company-specific information to determine the actual intermediate costs.
- In considering how to use log market prices as a starting point in a calculation to determine the residual value of any given stand of trees, there are numerous variables and a significant amount of complexity that would need to be accounted for. These considerations generally fall into three categories. The first category applies to logs from Crown lands, where the Department might need to identify and measure all costs associated with the tenure, for example silviculture and other forest management responsibilities. These costs would be different for logs from private lands. While the Department would not perform residual value calculations on private logs, these differences may need to be identified. The second and third criteria would apply to all logs. The second criterion covers the characteristics of the trees, including such factors as species, quality, and stand density. The third criterion covers the harvesting conditions, including such factors as distance to market, ground slope, and water and rock obstacles.
- All of these factors can cause significant variation in deriving a residual value for a stand of trees based on a log market price. The model and variables used would have to be carefully identified and analyzed. Moreover, as there is also important regional variation, there may need to be different models. Log markets in coastal and interior British Columbia, for example, would likely require different models of logging and other costs in order to ensure that the residual value calculation adequately reflected the differing conditions that apply in those geographically different markets.
- In addition, the Department would need some sort of reference point against which it could measure the results in a province, based on a residual value calculation, with the results that would prevail if all timber were sold at auction on a competitive basis. Accordingly, the Department would require that any province inclined to rely on a calculation of residual value as a basis for assessing the results of its system also provide the Department with adequate independent economic analysis that the province's collections fell well within the range collected from similar competitive auction sales.
- In reviewing that independent economic analysis, the Department will conduct a verification and may choose to develop its own economic analysis of the revenue available to similarly situated public or private landholders in both Canada and the United States.

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- After evaluating a province's administered prices under either a regression analysis or residual value analysis, the Department would proceed to determine whether revocation is warranted.

**V. Bases for Revocation**

- The analysis outlined above should lead to revocation of the countervailing duty order under the following two scenarios.

**A. Province Eliminates Practices Deemed to Be Inconsistent with Market-Based Sales of Timber and Sells All Standing Timber at Auction**

- Given the basic premise of the Department's analytical framework, the Department would revoke the current countervailing duty order with respect to any province that (1) eliminates all of its current practices deemed to be inconsistent with market-based sales of timber and (2) opts to sell all harvest rights and stumpage at auction.
- The Department would, by definition, deem the province to have adopted a system that would result in adequate remuneration. No further inquiry would be needed.

**B. Province Eliminates Practices Deemed to be Inconsistent with Market-Based Sales of Timber, But Retains Administrative Pricing for a Share of Harvest**

- Where a province eliminated the practices deemed to be inconsistent with market-based sales of timber, but did not sell all of its harvest at auction, the Department would be obliged to extend its analysis one step further.
- The Department would have to assess whether the province's new mechanism for setting stumpage rates ensures a result otherwise consistent with that which would prevail if all timber were sold on an auction basis.
- Where a province eliminates the practices deemed to be inconsistent with market-based sales and adopted changes to its mechanism for setting stumpage that, in the Department's view, ensure that all standing timber will be sold on a market-basis, the Department would revoke the countervailing duty order as applied to softwood lumber produced from timber harvested from that province's lands.

## **VI. Procedures Governing the Conduct of Changed Circumstances Reviews**

- As noted above, under U.S. countervailing duty law, an interested party with standing to do so may request a review of the Department's order based on changed circumstances. Thus, in the context of the countervailing duty order on softwood lumber from Canada, a province that modifies its timber sales program to eliminate those conditions of sale that are inconsistent with selling timber on a market basis could apply for a changed circumstances review.
- The object of that review should be to establish, to the Department's satisfaction, that the changes were of sufficient magnitude to ensure a market-based result.

### **A. Request for Review**

- The Department's changed circumstances reviews will be governed by the following guidelines.

#### **1. Timing**

- A Province may submit a request for a changed circumstances review at any time. Unlike an administrative review, there are no specific regulatory requirements concerning the timing of the submission of a request for a changed circumstances review.

#### **2. Content of Request**

- The Department will initiate a changed circumstances review upon receipt of an application containing the following information:
  - appropriate documentation (e.g., laws, regulations) demonstrating reform of timber allocation system, and elimination of minimum processing requirements, appurtenancy requirements, minimum cut requirements and mill closure restrictions, log export restrictions;
  - a detailed explanation and supporting documentation of the reforms in the provincial timber pricing system, including a system for subjecting some portion of Crown timber to competitive sales, that ensures a market-based outcome.

### **B. Standard for Initiation**

- Consistent with the objectives identified at the outset, and with the discussion of the legal parameters for any potential changed circumstances review, the Department will set a high threshold as a condition for initiating such reviews. The Department will

conduct such a review only if based on evidence of significant structural changes in a province's timber sales and pricing programs, as outlined in further detail above.

- Thus, where a party to the proceeding requests a changed circumstances review based on prima facie evidence that a province has altered its timber sales and pricing program to eliminate existing market-distorting practices, the Department will initiate a changed circumstances review to assess the impact of such changes.<sup>8</sup>

### **C. Conduct of the Review and Timeline**

- The review will be conducted in accordance with sections 351.216 and 351.221 of the Department's regulations.
- The Department will collect the necessary data through the issuance of written questionnaires and conduct verification of the questionnaire responses. The Department will issue a preliminary determination and allow parties an opportunity to comment on the preliminary results. The Department will, within 270 days, issue a final determination taking into account the comments received.

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<sup>8</sup> Minor changes in provincial timber sales programs (i.e., those that do not eliminate existing market-distorting conditions) will be addressed solely in the normal course of succeeding annual administrative reviews. In those instances, the Department would apply the normal countervailing duty methodology to measure the subsidy benefit. The Department will continue to rely on the price benchmarks set out in the Department's regulations as applied in the investigation as the appropriate basis for administrative reviews of existing provincial programs. The Department used cross-border pricing information from the United States, properly adjusted to reflect the fair market value of timber in Canada, as the most reliable benchmark.

## Appendix

Once there is substantial evidence showing that there are auctions of provincial timber that are generating bona fide market prices and that the administered prices are based on these, the Department would rely, in part, on a statistical model. The predicted value could be used to assess whether the administered prices were sufficiently close to auction prices, after appropriate adjustments for any tenure obligation and plot characteristics.

The Department's analysis assumes that the market's assessment of value (i.e., the winning auction price) depends on a number of variables including: amount of timber on site; development cost; current business cycle; species composition; density; quality; size; age; terrain; soil fertility; climate; the number of bidders; and other relevant factors.

The Department would use data from competitive Canadian auctions to estimate the relationship between the winning auction price and individual plot characteristics and business conditions (e.g., the number of bidders on the plot and the state of the current business cycle). This relationship can be written as:

**Winning Auction Price** = constant +  $B_1$ \*(amount of timber on site)) +  $B_2$ \*(development cost of plot) +  $B_3$ \*(current business cycle) +  $B_4$ \*(species composition on site) +  $B_5$ \*(density of timber on site) +  $B_6$ \*(quality of timber) +  $B_7$ \*(size) +  $B_8$ \*(age) +  $B_9$ \*(terrain) +  $B_{10}$ \*(soil fertility) +  $B_{11}$ \*(climate) +  $B_{12}$ \*(number of bidders) +  $B_i$ \*(other relevant variables would be added).

This statistical analysis would identify how much each of the characteristics matter, on average, in the final winning price for the competitive auctions. Each coefficient (or "B"), measures how much the winning bid would change if one of the characteristics changes, holding all other characteristics constant.

The Department will use the estimates of "B" to predict what the price of Crown lands would be if access were competitively auctioned instead of administratively determined. To calculate the predicted price, the Department will multiply each estimated "B" by the value of each of the underlying plot characteristics and business conditions for the specific Crown land plot. The resulting sum is the predicted auction price for the Crown land under similar competitive conditions.

The Department must also make adjustments for tenure obligations in order to compare the predicted auction price with the administratively-determined stumpage price. Information such as highway cost, selling and cutting arrangements, forestry management obligations, and any other costs (or potential benefits) to tenure holders that the auction participants may not bear must be included in the final predicted value for the Crown plot.



The Department will then compare the tenure-obligation-adjusted estimated plot value with the administered stumpage fee. If the administered stumpage price is sufficiently close to the estimated value, then the Department will determine that there is no subsidy. "Sufficiently" close in this context is based on a statistical test that yields a high degree of confidence that the two values are the same.

The formal statistical test is needed because the estimated value and the administered stumpage price would be identical only through pure chance. This is because there will always be some "sampling" or "measurement" error in this, or any, calculation of the underlying value of the timber on Crown lands. The Department does not need to get data from every Canadian plot but the data used must be reasonably representative of the diversity of Canadian conditions. However, the more individual private auction transactions that the Department can use to estimate the underlying value, the more confidence there will be in the final estimate. Similarly, the more variation there is in the Canadian plot characteristics, the more likely that the estimates will reflect the diversity of the province's of timber and timberlands.